

**What is claimed is:**

- 1 1. A structure having at least one outer wall, said outer wall further comprising:
  - 2 - an internal wall section;
  - 3 - an external wall section displaced a predetermined distance from and
  - 4 juxtaposed with said internal wall section;
  - 5 - an air flow passage between said internal wall section and said external
  - 6 wall section; and
  - 7 - an air circulation system providing an air flow through the air flow
  - 8 passage to inhibit moisture on the internal wall section.
- 1 2. The structure of claim 1 wherein the air provided is conditioned air to control
- 2 relative humidity of said air in said air flow passage.
- 1 3. The structure of claim 1 further comprising an attic that is in air communication
- 2 with the air flow passage.
- 1 4. The structure of claim 1 further comprising a roof that is coupled to the external
- 2 wall section to form an air seal therebetween.
- 1 5. The structure of claim 3 wherein the air circulation system creates a positive air
- 2 pressure in the structure to cause at least some of said air to flow through the air flow
- 3 passage.

1 6. The structure of claim 3 wherein the air circulation system is placed at one of (i)  
2 inside the structure; (ii) outside the structure system with an air conduit supplying air  
3 from the air circulation system to the air flow passage; and (iii) at least in part inside the  
4 structure.

1 7. The structure of claim 1 wherein the at least one outer wall includes a plurality of  
2 such outer walls and a roof to form an enclosed structure.

1 8. The structure of claim 1 wherein the external wall section includes an insulating  
2 layer.

1 9. The structure of claim 8 wherein the external wall section further comprises:

- 2 - a weather-resistant layer outside of the insulating layer; and
- 3 - a sheath inside of the insulating layer.

1 10. The structure of claim 1 wherein the internal wall section includes a liquid barrier.

1 11. The structure of claim 10 wherein the internal wall section further comprises a  
2 wall framing system to provide structural support to the internal wall section.

1 12. The structure of claim 11 wherein the internal wall section further comprises a  
2 first sheathing between the liquid barrier and the wall framing system.

1 13. The structure of claim 12 wherein the internal wall section further includes a  
2 second sheathing inside of the wall framing system.

1 14. The structure of claim 1 further comprising at least one sensor providing a signal  
2 indicative of presence of moisture.

1 15. The structure of claim 14 wherein the at least one sensor is placed at one of (i) in  
2 the air flow passage; (ii) in an attic of the structure; (iii) adjacent to the air circulation  
3 system.

1 16. The structure system of claim 14 further comprising a controller for controlling  
2 the air circulation system in response to the signal from the at least one sensor.

1 17. An enclosed structure comprising:  
2 at least one outer wall that includes  
3 - an internal wall section;  
4 - an external wall section displaced a predetermined distance from and  
5 juxtaposed with said internal wall section;  
6 - an air flow passage between said internal wall section and said external  
7 wall section;  
8 - an air circulation system for causing air to flow through the flow passage  
9 to inhibit moisture on the inner wall section;

10           -       at least one sensor for generating a signal indicative of moisture; and

11           -       a controller for controlling said circulation system in response to said

12           signal from said at least one sensor to inhibit moisture on the internal wall

13           section.

1     18.     The enclosed structure of claim 17, wherein the at least one sensor comprises at  
2     least one relative humidity sensor located proximate to the air flow passage for indicating  
3     the relative humidity of the air flow in said air flow passage.

1     19.     The enclosed structure of claim 17, wherein the controller includes at least one  
2     circuit to interface with said at least one sensor, and a processor, acting according to  
3     programmed instructions, to control the circulation system to provide a predetermined  
4     relative humidity of the air flow in said air flow passage.

1     20.     A method for inhibiting moisture accumulation in an outer wall of a structure,  
2     comprising:

3           -       providing an outer wall having an internal wall section and an external  
4           wall section with an air flow passage therebetween; and  
5           -       supplying air into the air flow passage by an air circulation system to  
6           inhibit moisture accumulation on the internal wall section.

1 21. The method of claim 20 wherein supplying air comprises supplying conditioned  
2 air.

1 22. The method of claim 20 wherein supplying air comprises supplying air with an air  
2 circulation system associated with the structure.

1 23. The method of claim 20 further comprising determining relative humidity of the  
2 air inside the structure.

1 24. The method of claim 23 further comprising controlling supply of the air in  
2 response to the determined relative humidity.

1 25. The method of claim 23 further comprising controlling the air circulation system  
2 in accord to programmed instruction provided to a controller associated with the air  
3 circulation system.